

## 5.4b Fundamental Theorem of Calculus

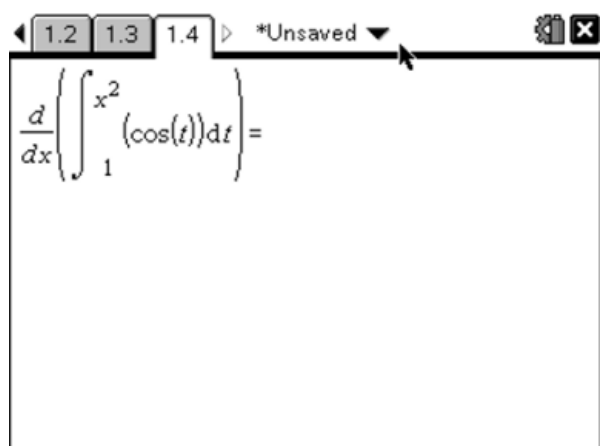
proof of ftc

Nov 13-5:36 PM

1.1 1.2 1.3 \*Unsaved

$$\frac{d}{dx} \left( \int_{-\pi}^x (\cos(t)) dt \right) =$$
$$\frac{d}{dx} \left( \int_0^x \left( \frac{1}{1+t^2} \right) dt \right) = \quad ?$$

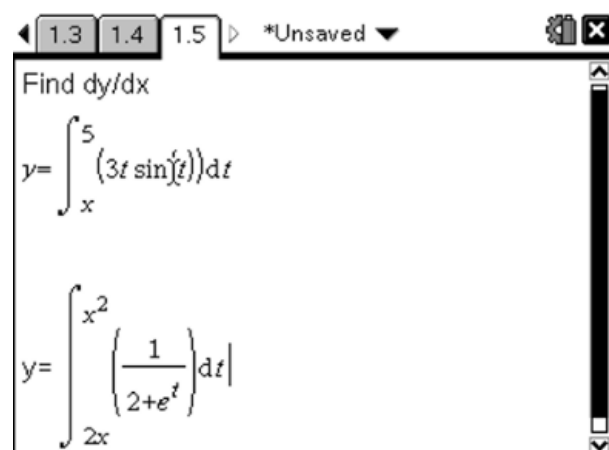
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The screenshot shows a software window with tabs 1.2, 1.3, and 1.4. The active tab 1.4 contains the expression  $\frac{d}{dx} \left( \int_1^{x^2} (\cos(t)) dt \right) =$ . The window title bar indicates the file is unsaved.

$$\frac{d}{dx} \left( \int_1^{x^2} (\cos(t)) dt \right) =$$

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The screenshot shows a software window with tabs 1.3, 1.4, and 1.5. The active tab 1.5 contains the text "Find dy/dx" followed by two integral equations. The window title bar indicates the file is unsaved.

Find  $dy/dx$

$$y = \int_x^5 (3t \sin(t)) dt$$

$$y = \int_{2x}^{x^2} \left( \frac{1}{2+e^t} \right) dt$$

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Find a function  $y = f(x)$  with derivative  $dy/dx = \tan(x)$  that satisfies the condition  $f(3)=5$ . Graph the function.

Nov 13-5:57 PM